

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Yong Liu et al.

Application No.: filed Herewith

Parent Appln. Group No.: 1756

Filed: 10/14/2003

Parent Appln. Examiner: Stephen D. Rosasco

For: "System And Method For Correcting 3D Effects In An Alternating Phase-Shifting Mask"

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Date: October 14, 2003

INFORMATION DISCLOSURE STATEMENT

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

1. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

Section 1. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application Serial No.: 09/974,507, filed on October 9, 2001, now allowed (U.S. Patent Number not yet known).

Copies of the documents listed on the accompanying Form PTO-1449 (22 pages) that are not enclosed were previously submitted in Application No. 09/974,507, from which this Application claims an earlier effective filing date.

Applicants respectfully request that the listed information be considered by the Examiner and be made of record in the above-identified application. If form PTO-1449 is enclosed, the Examiner is requested to initial and return it in accordance with MPEP § 609.

This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56.

☒ This statement qualifies under 37 C.F.R. § 1.97, subsection (b) because (check all that apply):

- ☒ (1) It is being filed within 3 months of the application filing date and is other than a continued prosecution application under § 1.53(d)
-- OR --
- ☐ (2) It is being filed within 3 months of entry of a national stage
-- OR --
- ☐ (3) It is being filed before the mail date of the first Office Action on the merits.
-- OR --
- ☐ (4) It is being filed before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114

SN: filed herewith

☐ 37 C.F.R. § 1.97(c). If this statement is being filed after the period specified in § 1.97(b), but before the mailing date of the earlier of a final office action under § 1.113, a notice of allowance under § 1.311, or an action that otherwise closes prosecution in the application, then:

☐ a certification as specified in § 1.97(e) is provided below; or

☐ a fee of \$180.00 as set forth in § 1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.

☐ 37 C.F.R. § 1.97(d). If this statement is being filed after the period specified in § 1.97(c), but on or before payment of the issue fee, then:

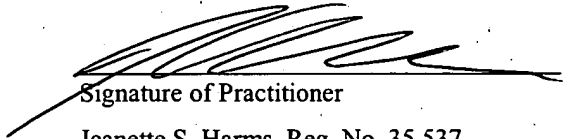
A. a certification as specified in § 1.97(e) is completed below; and

B. a fee of \$180.00 as set forth in § 1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.

☒ *Fee Authorization.* Applicant believes NO fee is due. However, in the event a fee is found to be due, the Commissioner is hereby authorized to charge Deposit Account No. 50-0574 (Docket No. NTI-023-1D).

Date: 10-14-03

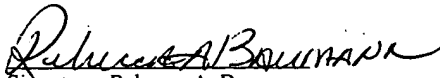
Tel. No.: 1-408-451-5907
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Signature of Practitioner

Jeanette S. Harms, Reg. No. 35,537
Bever, Hoffman & Harms, LLP

I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS MAIL, Label No: EV 338 032 712 US addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450.

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Signature: Rebecca A. Baumann

INFORMATION DISCLOSURE CITATION PTO-1449			Atty. Docket No. NTI-023-1D		Serial No. Filed Herewith	
			Applicant LIU, Yong			
			Filing Date Filed Herewith		Group	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	4,231,811	11/4/1980	Somekh, et al.	148	1.5	9/13/1979
	4,426,584	1/17/1984	Bohlen, et al.	250	492.2	6/3/1981
	4,456,371	6/26/1984	Lin	355	71	6/30/1982
	4,812,962	3/14/1989	Witt	364	490	4/9/1987
	4,895,780	1/23/1990	Nissan-Cohen, et al.	430	5	10/25/1988
	4,902,899	2/20/1990	Lin, et al.	250	492.1	6/1/1987
	5,051,598	9/24/1991	Ashton, et al.	250	492.2	9/12/1990
	5,182,718	1/26/1993	Harafuji, et al.	364	490	3/29/1990
	5,208,124	5/4/1993	Sporon-Fiedler, et al.	430	5	3/19/1991
	5,241,185	8/31/1993	Meiri, et al.	250	492.2	1/8/1992
	5,242,770	9/7/1993	Chen, et al.	430	5	1/16/1992
	5,256,505	10/26/1993	Chen, et al.	430	5	8/21/1992
	5,326,659	7/5/1994	Liu, et al.	430	5	3/5/1992
	5,340,700	8/23/1994	Chen, et al.	430	312	11/3/1993
	5,432,714	7/11/1995	Chung, et al.	364	525	9/2/1994
	5,447,810	9/5/1995	Chen, et al.	430	5	2/9/1994
	5,498,579	3/12/1996	Borodovsky, et al.	437	250	6/8/1994
	5,553,273	9/3/1996	Liebmann	395	500	4/17/1995
	5,553,274	9/3/1996	Liebmann	395	500	6/6/1995
	5,572,598	11/5/1996	Wihl, et al.	382	144	2/25/1994
	5,631,110	5/20/1997	Shioiri, et al.	430	5	6/5/1995
	5,636,002	6/3/1997	Garofalo	355	53	10/31/1995
	5,657,235	8/12/1997	Liebmann, et al.	364	474.24	5/3/1995

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			Filing Date Filed Herewith		Group	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,663,017	9/2/1997	Schinella, et al.	430	5	6/7/1995
	5,663,893	9/2/1997	Wampler, et al.	364	491	5/3/1995
	5,682,323	10/28/1997	Paschi, et al.	364	491	3/6/1995
	5,705,301	1/6/1998	Garza, et al.	430	5	2/27/1996
	5,707,765	1/13/1998	Chen	430	5	5/28/1996
	5,723,233	3/3/1998	Garza, et al.	430	5	2/27/1996
	5,740,068	4/14/1998	Liebmann, et al.	364	489	5/30/1996
	5,766,806	6/16/1998	Spence	430	5	9/9/1996
	5,795,688	8/18/1998	Burdorf, et al.	430	30	8/14/1996
	5,801,954	9/1/1998	Le, et al.	364	488	4/24/1996
	5,804,340	9/8/1998	Garza, et al.	430	5	12/23/1996
	5,815,685	9/29/1998	Kamon	395	500	9/15/1995
	5,821,014	10/13/1998	Chen, et al.	430	5	2/28/1997
	5,825,647	10/20/1998	Tsudaka	364	167.03	3/12/1996
	5,827,623	10/27/1998	Ishida, et al.	430	5	10/30/1996
	5,847,959	12/8/1998	Veneklasen, et al.	364	468.28	1/28/1997
	5,862,058	1/19/1999	Samuels, et al.	364	491	5/16/1996
	5,863,682	1/26/1999	Abe, et al.	430	30	2/21/1997
	5,879,844	3/9/1999	Yamamoto, et al.	430	30	12/20/1996
	5,885,734	3/23/1999	Pierrat, et al.	430	5	8/15/1996
	5,900,338	5/4/1999	Garza, et al.	430	5	8/15/1997
	5,958,635	9/28/1999	Reich, et al.	430	30	10/20/1997
	5,972,541	10/26/1999	Sugasawara, et al.	430	5	3/4/1998

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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,994,002	11/30/1999	Matsuoka	430	5	9/4/1997
	6,007,310	12/28/1999	Jacobsen, et al.	417	362	5/23/1997
	6,009,250	12/28/1999	Ho, et al.	395	500.06	9/30/1997
	6,009,251	12/28/1999	Ho, et al.	395	500.06	9/30/1997
	6,011,911	1/4/2000	Ho, et al.	395	500.06	9/30/1997
	6,077,310	6/20/2000	Yamamoto, et al.	716	19	1/29/1999
	6,078,738	6/20/2000	Garza, et al.	395	500.22	5/8/1997
	6,081,658	6/27/2000	Rieger, et al.	395	500.22	12/31/1997
	6,081,659	6/27/2000	Garza, et al.	395	500.22	4/26/1999
	6,114,071	9/5/2000	Chen, et al.	430	5	4/6/1998
	6,289,499	9/11/2001	Rieger, et al.	716	21	1/7/2000
	6,171,731 B1	1/9/2001	Medvedeva, et al.	430	5	1/20/1999
	6,249,597 B1	6/19/2001	Tsudaka	382	144	12/17/1998

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	5,282,140	1/25/1994	Tazawa, et al.	364	468	6/24/1992
	6,014,456	1/11/2000	Tsudaka	382	144	7/15/1996
	6,154,563	11/28/2000	Tsudaka	382	144	12/17/1998
	6,225,025 B1	5/1/2001	Hoshino	430	296	9/22/1998
	6,298,473 B1	10/2/2001	Ono, et al.	716	21	12/3/1998
	6,339,836 B1	1/15/2002	Eisenhofer, et al.	716	5	8/24/1998
	6,453,457 B1	9/17/2002	Pierrat, et al.	716	19	9/29/2000
	2002/0076622 A1	6/20/2002	Pierrat, et al.	430	5	12/20/2000
	2002/0100004 A1	7/25/2002	Pierrat, et al.	716	5	3/15/2002

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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,991,006	11/23/0199	Tsudaka	355	53	10/27/1997
	6,016,357	1/18/2000	Neary, et al.	382	144	6/16/1997
	6,091,845	7/18/2000	Pierrat, et al.	382	144	2/24/1998
	6,272,236	8/7/2001	Pierrat, et al.	382	144	7/18/2000
	6,243,855 B1	6/5/2001	Kobayashi, et al.	716	19	9/29/1998
	2002/0019729 A1	2/14/2002	Chang, et al.	703	6	8/7/1998
	2002/0035461 A1	3/21/2002	Chang, et al.	703	13	7/16/2001
	6,183,916	2/06/2001	Kuo et al.	430	5	9/13/1999
	6,425,117	7/23/2002	Pasch et al.	716	21	9/29/1997

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INFORMATION DISCLOSURE CITATION PTO-1449			Atty. Docket No. NTI-023-1D Applicant LIU, Yong Filing Date Filed Herewith		Serial No. Filed Herewith Group		
FOREIGN PATENT DOCUMENTS							
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	WO 00/36525 A2	6/22/2000	WO			<input type="checkbox"/>	<input type="checkbox"/>
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	11-143085	5/28/1999	JP			<input type="checkbox"/>	<input type="checkbox"/>

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		NTI-023-1D		Filed Herewith			
		Applicant		Group			
		LIU, Yong					
		Filing Date					
		Filed Herewith					
FOREIGN PATENT DOCUMENTS							
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	WO 99/14706 A2/A3	3/25/1999	WO			<input type="checkbox"/>	<input type="checkbox"/>

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	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)	
EXAMINER'S INITIALS	CITATION	
	Ackmann, P., et al., "Phase Shifting and Optical Proximity Corrections to Improve CD Control on Logic Devices in Manufacturing for Sub 0.35 um I-Line", Advance Micro Devices (8 pages).	
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	Cobb, et al., "Fast Sparse Aerial Image Calculation for OPC", SPIE, Vol. 2621, pp. 534-544.	
	Lithas, "Lithas: Optical Proximity Correction Software" (2 pages).	
	Microunity, "OPC Technology & Product Description", MicroUnity Systems Engineering, Inc., pp. 1-5.	
	Precim, "Proxima System", Precim Company, Portland, Oregon (2 pages).	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
EXAMINER'S INITIALS	CITATION		
	Sugawara, M., et al., "Practical Evaluation of Optical Proximity Effect Correction by EDM Methodology", Sony Corporation (11 pages).		
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	Adam, K., et al., "Simplified Models for Edge Transitions in Rigorous Mask Modeling", University of California Berkeley (40 pages).		
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	Pistor, T., "Rigorous 3D Simulation of Phase Defects in Alternating Phase-Shifting Masks", Panoramic Technology Inc. (13 pages).		
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
EXAMINER'S INITIALS	CITATION		
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
EXAMINER'S INITIALS	CITATION		
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